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PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Re:	Application of:	Wolfgang NIESSEN
	Serial No.:	10/733,486
	Filed:	12/11/2003
	For:	METHOD AND SYSTEM FOR CONTROLLING THE CREEP BEHAVIOR OF A VEHICLE EQUIPPED WITH AN AUTOMATED CLUTCH
	Art Unit:	3683
	Examiner:	Robert Siconolfi

Mail Stop: PETITIONS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

January 18, 2008

APPELLANTS' BRIEF UNDER 37 C.F.R. § 41.37

Sir:

Appellant submits this brief for the consideration of the Board of Patent Appeals and Interferences (the "Board") in support of their appeal of the Non-Final Office Action dated December 28, 2006 in this application. As stated in the Office Action, the previously paid Appeal Brief Fee of $500, which was filed on September 18, 2006, can be applied to the current Appeal Brief. Since the Appeal Brief fees have been increased to $510, the difference between the new and old statutory fee of $10.00 is submitted concurrently herewith. If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Adjustment date: 01/23/2008 SSANDARA
09/22/2006 FMETEKI1 00000014 10733486
02 FC:1402 -500.00 OP

01/23/2008 SSANDARA 00000027 10733486
02 FC:1402 510.00 OP

1. REAL PARTY IN INTEREST

The real party in interest is Luk Lamellen und Kupplungsbau Beteiligungs KG, a German corporation having a place of business in Buehl, Germany, and the assignee of the entire right, title and interest in the above-identified patent application. The invention was assigned to Luk Lamellen und Kupplungsbau Beteiligungs KG by an assignment originating from inventor Wolfgang Niessen. The most recent conveyance was recorded on April 1, 2004 at reel 015158, frame 0148.

2. RELATED APPEALS AND INTERFERENCES

Appellants, their legal representatives, and assignee are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

Claims 1, 3 to 5 and 8 to 17 are pending. Claims 2, 6 and 7 have been canceled without prejudice. Claims 1, 3 to 5 and 8 to 17 have been rejected as per the Office Action dated December 28, 2006.

The rejection to claims 1, 3 to 5 and 8 to 17 thus is appealed. A copy of appealed claims 1, 3 to 5 and 8 to 17 is attached hereto as Appendix A.

4. STATUS OF AMENDMENTS

In response to the Office Action dated December 28, 2006, no amendments have been made.

A Notice of Appeal was filed on March 28, 2007, and received by the U.S.P.T.O. on April 2, 2007.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 recites a method for controlling creep behavior of a vehicle equipped with an automated clutch (for example, clutch 4 in Figure 2; for example, page 3, paragraph 14, lines 1 to 2), comprising: detecting actuation of a brake actuating element (for example, brake pedal 34 in Figure 2; for example, page 2, paragraph 7, line 4 to 6 and page 4, paragraph 14, lines 1 to 5), a creep parameter (for example, creep parameter KP in Figure 1; for example, page 6, paragraph 21, line 1) influencing a creep of the vehicle (for example, page 6, paragraph 23, lines 1 to 2), an actuating position of the automated clutch being a function of the creep parameter (for example, page 7, paragraph 27, lines 1 to 9), and controlling the creep parameter (for example, KP in Fig. 1) using a vehicle speed setpoint so that when the brake actuating element is increasingly actuated, the vehicle speed is reduced (for example, page 6, paragraph 23, lines 1 to 5).

Independent claim 11 recites a system for controlling the creep behavior of a vehicle equipped with an automated clutch (for example, clutch 4 in Figure 2; for example, page 3, paragraph 14, lines 1 to 2), the system comprising: a brake actuating element (for example, brake pedal 34 in Figure 2; for example, page 2, paragraph 7, line 4 to 6 and page 4, paragraph 14, lines 1 to 5); a brake sensor sensing actuation of the brake actuating element (for example, pressure sensor 44 in Figure 2; for example, page 6, paragraph 22, lines 1 to 3); a clutch actuator for controlling the clutch (for example, actuating device 16 and clutch 4 in Figure 2; for example, page 5, paragraph 16, lines 4 to 5); a speed sensor detecting a rotational speed of a transmission input shaft downstream of the clutch (for example, page 6, paragraph 24, lines 1 to 3); and an electronic control device having memory devices and a microprocessor (for example, control unit 14 in Fig. 2; for example, page 2, paragraph 6, line 1 and page 5, paragraph 16, lines 5 to 6), the electronic control device connected to the brake sensor and clutch actuator (for example, control unit 14, actuating device 16 and pressure sensor 44 in Fig. 2; for example, page 2, paragraph 7, line 4 to 6, page 3, paragraph 9, lines 1 to 3, and page 5, paragraph 16, lines 5 to 6), the control device receiving an input from the speed sensor and controlling the speed of the vehicle using a

vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated (for example, Fig. 1; for example, page 7, paragraph 27, lines 1 to 9).

Independent claim 16 recites a method for controlling creep behavior of a vehicle equipped with an automated clutch (for example, clutch 4 in Figure 2; for example, page 3, paragraph 14, lines 1 to 2), comprising: detecting actuation of a brake actuating element (for example, brake pedal 34 in Figure 2; for example, page 2, paragraph 7, line 4 to 6 and page 4, paragraph 14, lines 1 to 5); and controlling the automated clutch to attain a vehicle speed setpoint (for example, KP_s in Fig. 1), the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated (for example, page 6, paragraph 21, line 2).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3 to 5 and 8 to 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasa (EP 375 162) in view of Muramoto (U.S. 6,609,994). Claims 1, 3 to 5 and 8 to 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasa (EP 375 162) in view of De La Salle et al. (U.S. 7,035,727).

7. ARGUMENTS

<u>35 U.S.C. 103 Rejections</u>

Claims 1, 3 to 5 and 8 to 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasa (EP 375 162) in view of Muramoto (U.S. 6,609,994). Claims 1, 3 to 5 and 8 to 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasa (EP 375 162) in view of De La Salle et al. (U.S. 7,035,727).

Sasa discloses a "system for controlling the clutch of an automotive vehicle include[ing a] clutch engagement amount deciding means for deciding an amount of clutch engagement based on the braking force applied by a brake device. A clutch actuator is controlled based on the amount of clutch engagement decided by the deciding means, so that the vehicle can be made to travel at very low velocity merely by operating a brake pedal." (See Abstract).

Muramoto discloses a braking device/ driving control apparatus for an automotive vehicle.

De La Salle discloses a method for controlling vehicle creep control.

Claim 1 Argued Separately under Sasa in view of Muramoto

Claim 1 recites "a method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element, a creep parameter influencing a creep of the vehicle, an actuating position of the automated clutch being a function of the creep parameter; and

controlling the creep parameter using a vehicle speed setpoint so that when the brake actuating element is increasingly actuated, the vehicle speed is reduced."

Sasa does not disclose "controlling the creep parameter using a vehicle speed setpoint so that when the braking element is increasingly actuated, the vehicle speed is reduced" as claimed in claim 1.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Also, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, Muramoto controls the vehicle creep using the engine and not the clutch as claimed.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in Muramoto, as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of Muramoto.

Withdrawal of the rejection to claim 1 and dependent claims 3, 4, 5, 8, 9, 10, 12, 13, 14 and 15 is respectfully requested.

<u>Claim 11 Argued Separately under Sasa in view of Muramoto</u>

Claims 11 recites "a system for controlling the creep behavior of a vehicle equipped with an automated clutch, the system comprising:

a brake actuating element;

a brake sensor sensing actuation of the brake actuating element;

a clutch actuator for controlling the clutch;

a speed sensor detecting a rotational speed of a transmission input shaft downstream of the clutch; and

an electronic control device having memory devices and a microprocessor, the electronic control device connected to the brake sensor and clutch actuator, the control device receiving an input from the speed sensor and controlling a speed of the vehicle using a vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated."

Sasa does not disclose "controlling a speed of the vehicle using a vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated" as claimed in claim 11.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Furthermore, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, Muramoto controls the vehicle creep using the engine and not the clutch as claimed.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in Muramoto, as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of Muramoto.

Withdrawal of the rejection to claim 11 is respectfully requested.

Claim 16 Argued Separately under Sasa in view of Muramoto

Claim 16 recites "a method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element; and

controlling the automated clutch to attain a vehicle speed setpoint, the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated."

Sasa does not disclose "controlling the automated clutch to attain a vehicle speed setpoint, the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated" as claimed in claim 16.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is

only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Furthermore, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, Muramoto controls the vehicle creep using the engine and not the clutch as claimed.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in Muramoto, as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of Muramoto.

Withdrawal of the rejection to claims 16 and dependent claim 17 is respectfully requested.

Claim 12: Argued separately under Sasa in view of Muramoto

With further respect to claim 12, claim 12 recites "wherein the speed of the vehicle is controlled so as to vary linearly with actuation of the brake element."

Sasa provides no information on the actual vehicle speed, but rather only on the clutch engagement amount. The speed of a vehicle is not dependent solely on the clutch engagement amount, and thus Sasa also does not disclose the limitation of claim 12 and thus withdrawal of the rejection of this claim for this reason as well is respectfully requested.

Claim 13: Argued Separately under Sasa in view of Muramoto

With further respect to claim 13, claim 13 recites "wherein the speed of the vehicle is controlled so that the speed of the vehicle equals (BMAX-B/BMAX)*VMAX for B<BMAX and zero for B>BMAX, where B is the brake actuation, BMAX is a maximum creep brake actuation, and VMAX is the maximum vehicle creep when the brake is not actuated."

No such speed control is disclosed in Sasa, nor have the limitations of NMAX and VMAX been addressed by the Office Action.

Withdrawal of the rejection to claim 13 for this reason as well is respectfully requested.

Claim 14: Argued Separately under Sasa in view of Muramoto

With further respect to claim 14, claim 14 recites the method as recited in claim 1 "wherein the speed of the vehicle is determined using a sensor sensing a rotational speed of an input shaft to a transmission, the sensor being downstream of the clutch."

There is no such step or disclosure in Sasa, nor has the Office Action identified any.

Withdrawal of the rejection to claim 14 for this reason as well is respectfully requested.

Claim 15: Argued Separately under Sasa in view of Muramoto

With further respect to claim 15, claim 15 recites the method as recited in claim 14 "wherein the speed of the vehicle is determined using the transmission ratio."

There is no such disclosure in Sasa, nor has the Office Action identified any.

Withdrawal of the rejection to claim 15 for this reason as well is respectfully requested

Claim 1 Argued Separately under Sasa in view of De La Salle et al.

Claim 1 recites "a method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element, a creep parameter influencing a creep of the vehicle, an actuating position of the automated clutch being a function of the creep parameter; and

controlling the creep parameter using a vehicle speed setpoint so that when the brake actuating element is increasingly actuated, the vehicle speed is reduced."

Sasa does not disclose "controlling the creep parameter using a vehicle speed setpoint so that when the braking element is increasingly actuated, the vehicle speed is reduced" as claimed.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Furthermore, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, De La Salle et al. teaches away from using the clutch by using the engine and transmission to control the vehicle creep.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in De La Salle et al., as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of De La Salle et al.

Withdrawal of the rejection to claim 1 and dependent claims 3, 4, 5, 8, 9, 10, 12, 13, 14 and 15 is respectfully requested.

<u>Claim 11 Argued Separately under Sasa in view of De La Salle et al.</u>

Claims 11 recites "a system for controlling the creep behavior of a vehicle equipped with an automated clutch, the system comprising:

a brake actuating element;

a brake sensor sensing actuation of the brake actuating element;

a clutch actuator for controlling the clutch;

a speed sensor detecting a rotational speed of a transmission input shaft downstream of the clutch; and

an electronic control device having memory devices and a microprocessor, the electronic control device connected to the brake sensor and clutch actuator, the control device receiving an input from the speed sensor and controlling a speed of the vehicle using a vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated."

Sasa does not disclose "controlling a speed of the vehicle using a vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated" as claimed in claim 11.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Furthermore, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, De La Salle et al. teaches away from using the clutch by using the engine and transmission to control the vehicle creep.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in De La Salle et al., as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of De La Salle et al.

Withdrawal of the rejection to claim 11 is respectfully requested.

<u>Claim 16 Argued Separately under Sasa in view of De La Salle et al.</u>

Claim 16 recites "a method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element; and

controlling the automated clutch to attain a vehicle speed setpoint, the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated."

Sasa does not disclose "controlling the automated clutch to attain a vehicle speed setpoint, the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated" as claimed in claim 16.

Rather Sasa directly controls clutch engagement amount as a function of brake depression. See Fig. 4(h) and related description.

Sasa does not set or have any "vehicle speed setpoint" at all, but rather has a desired clutch engagement amount. Such clutch engagement amount varies the speed of a vehicle, but is only one factor in the speed of the vehicle, since the actual speed of the vehicle will vary for

example depending on whether the vehicle is on a hill, etc. Thus Sasa does not use a vehicle speed setpoint, explicitly or implicitly.

Moreover, if a vehicle speed setpoint were used, Sasa would not use a corrective value E for a road surface gradient as shown in Fig. 4 (i). This corrective value alters the clutch engagement/brake pedal relationship, but is completely independent of a specific vehicle speed and the correction would be useless and unnecessary were Sasa actually using a vehicle speed setpoint.

Sasa also clearly is not targeting a specific vehicle speed as clear from the statement in column 9:

> [T]ravel at very low velocity can be achieved with ease by merely controlling the amount of brake pedal depression, and the amount of clutch engagement can be corrected in dependence upon the state of the road surface of which the vehicle is situated, the desired amount of adjustment set by the creep device, and the state of vehicle load.

Sasa merely asserts that by controlling the clutch engagement as a function of the brake pedal force, all travel at low velocities can be made easier- no specific velocity is targeted. Again, the use of corrective values independent of vehicle speed makes clear that no vehicle speed setpoint is being used.

Furthermore, Sasa does not teach or show complete closing of the clutch when there is no brake activity.

In addition, De La Salle et al. teaches away from using the clutch by using the engine and transmission to control the vehicle creep.

In addition, it is respectfully submitted that it would not have been obvious to provide the device of Sasa with such a vehicle speed setpoint as asserted in De La Salle et al., as it would have made the entire corrective value scheme of Sasa moot and Sasa wants a direct correspondence between brake pedal amount and clutch engagement force. Sasa deliberately dealt with creep without using a vehicle speed setpoint, and there also no teaching or motivation to so modify Sasa in view of De La Salle et al.

Withdrawal of the rejection to claims 16 and dependent claim 17 is respectfully requested.

Claim 12: Argued separately under Sasa in view of De La Salle et al.

With further respect to claim 12, claim 12 recites "wherein the speed of the vehicle is controlled so as to vary linearly with actuation of the brake element."

Sasa provides no information on the actual vehicle speed, but rather only on the clutch engagement amount. The speed of a vehicle is not dependent solely on the clutch engagement amount, and thus Sasa also does not disclose the limitation of claim 12 and thus withdrawal of the rejection of this claim for this reason as well is respectfully requested.

Claim 13: Argued Separately under Sasa in view of De La Salle et al.

With further respect to claim 13, claim 13 recites "wherein the speed of the vehicle is controlled so that the speed of the vehicle equals (BMAX-B/BMAX)*VMAX for B<BMAX and zero for B>BMAX, where B is the brake actuation, BMAX is a maximum creep brake actuation, and VMAX is the maximum vehicle creep when the brake is not actuated."

No such speed control is disclosed in Sasa, nor have the limitations of NMAX and VMAX been addressed by the Office Action.

Withdrawal of the rejection to claim 13 for this reason as well is respectfully requested.

Claim 14: Argued Separately under Sasa in view of De La Salle et al.

With further respect to claim 14, claim 14 recites the method as recited in claim 1 "wherein the speed of the vehicle is determined using a sensor sensing a rotational speed of an input shaft to a transmission, the sensor being downstream of the clutch."

There is no such step or disclosure in Sasa, nor has the Office Action identified any.

Withdrawal of the rejection to claim 14 for this reason as well is respectfully requested.

Claim 15: Argued Separately under Sasa in view of De La Salle et al.

With further respect to claim 15, claim 15 recites the method as recited in claim 14 "wherein the speed of the vehicle is determined using the transmission ratio."

There is no such disclosure in Sasa, nor has the Office Action identified any.

Withdrawal of the rejection to claim 15 for this reason as well is respectfully requested

CONCLUSION

It is respectfully submitted that the application is in condition for allowance. Favorable consideration of this appeal brief is respectfully requested.

Respectfully submitted,

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By: ______________________

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APPENDIX A:

PENDING CLAIMS 1, 3 to 5 and 8 to 17 OF U.S.
APPLICATION SERIAL NO. 10/733,486

Claim 1 (previously presented): A method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element, a creep parameter influencing a creep of the vehicle, an actuating position of the automated clutch being a function of the creep parameter; and

controlling the creep parameter using a vehicle speed setpoint so that when the brake actuating element is increasingly actuated, the vehicle speed is reduced.

Claim 2 (canceled).

Claim 3 (original): The method as recited in claim 1 wherein the detecting step includes detecting an actuation force on the brake pedal.

Claim 4 (original): The method as recited in claim 1 wherein the detecting step includes detecting a pressure in a brake system.

Claim 5 (original): The method as recited in claim 1 wherein the detecting step includes detecting a path of the brake actuating element.

Claims 6 and 7 (canceled).

Claim 8 (original): A system for controlling the creep behavior of a vehicle equipped with an automated clutch, the system comprising:

engine sensors for detecting operating parameters of a vehicle engine;

a brake sensor for detecting an operating state of a vehicle braking device;

a power adjustment actuator for controlling a power output of the engine;

a clutch actuator for controlling the clutch;

a brake actuating element; and

an electronic control device having memory devices and a microprocessor, the electronic control device connected to the engine sensors, brake sensor, clutch actuator and brake actuating element, the control device controlling the clutch actuator according to analysis of the brake sensor signals so as to control creep behavior according to the method as recited in claim 1.

Claim 9 (original): The system as recited in claim 8 wherein the engine sensors includes a first sensor for detecting a vehicle speed.

Claim 10 (original): The system as recited in claim 9 wherein the first sensor detects a rotational speed of an input shaft of a transmission situated downstream from the clutch in order to detect the vehicle speed.

Claim 11 (previously presented): A system for controlling the creep behavior of a vehicle equipped with an automated clutch, the system comprising:

a brake actuating element;

a brake sensor sensing actuation of the brake actuating element;

a clutch actuator for controlling the clutch;

a speed sensor detecting a rotational speed of a transmission input shaft downstream of the clutch; and

an electronic control device having memory devices and a microprocessor, the electronic control device connected to the brake sensor and clutch actuator, the control device receiving an input from the speed sensor and controlling a speed of the vehicle using a vehicle speed setpoint so as to reduce vehicle creep as the brake actuating element is increasingly actuated.

Claim 12 (previously presented): The method as recited in claim 1 wherein the speed of the vehicle is controlled so as to vary linearly with actuation of the brake element.

Claim 13 (previously presented): The method as recited in claim 1 wherein the speed of the vehicle is controlled so that the speed of the vehicle equals (BMAX-B/BMAX)*VMAX for B<BMAX and zero for B>BMAX, where B is the brake actuation, BMAX is a maximum creep brake actuation, and VMAX is the maximum vehicle creep when the brake is not actuated.

Claim 14 (previously presented): The method as recited in claim 1 wherein the speed of the vehicle is determined using a sensor sensing a rotational speed of an input shaft to a transmission, the sensor being downstream of the clutch.

Claim 15 (previously presented): The method as recited in claim 14 wherein the speed of the vehicle is determined using the transmission ratio.

Claim 16 (previously presented): A method for controlling creep behavior of a vehicle equipped with an automated clutch, comprising:

detecting actuation of a brake actuating element; and

controlling the automated clutch to attain a vehicle speed setpoint, the vehicle speed setpoint being reduced as the brake actuating element is increasingly actuated.

Claim 17 (previously presented): The method as recited in claim 16 further comprising determining a vehicle speed as a function of an input shaft to a transmission.

APPENDIX B

Evidence Appendix under 37 C.F.R. §41.37(c)(ix):

No evidence pursuant to 37 C.F.R. §§1.130, 1.131 or 1.132 and relied upon in the appeal has been submitted by appellants or entered by the examiner.

APPENDIX C

Related proceedings appendix under 37 C.F.R. §41.37(c)(x):

As stated in "2. RELATED APPEALS AND INTERFERENCES" of this appeal brief, appellants, their legal representatives, and assignee are not aware of any appeal or interference that directly affects, will be directly affected by, or will have a bearing on the Board's decision in this appeal.